

**In the Claims:**

1-18. (Canceled)

19. (Currently amended) An isolated peptide or protein according to claim 20, wherein said peptide or protein comprises a Flt4 fragment that is encoded by a polynucleotide or oligonucleotide that consists of a continuous nucleotide sequence of at least 200 nucleotides from a nucleotide sequence selected from the group consisting of: SEQ ID NO: 1 and SEQ ID NO: 3, wherein the peptide or protein comprises sufficient amino acid sequence encoded by SEQ ID NO: 1 or 3 to generate an immune response in a nonhuman mammal to produce antibodies that specifically bind to Flt4 (SEQ ID NO: 2 or 4).

20. (Previously presented) An isolated peptide or protein comprising an amino acid sequence comprising a fragment of SEQ ID NO: 2 or 4 selected from the group consisting of:

(a) the Flt4 receptor tyrosine kinase (Flt4) extracellular domain (EC) amino acid sequence set forth in SEQ ID NO: 2 or 4 and;

(b) a fragment of said extracellular domain amino acid sequence, wherein the fragment comprises sufficient amino acid sequence of SEQ ID NO: 2 or 4 to generate an immune response in a nonhuman mammal to produce antibodies that specifically bind to Flt4 (SEQ ID NO: 2 or 4).

21. (Previously presented) A purified peptide or protein according to claim 20, comprising said extracellular domain (EC) fragment.

22. (Previously presented) A purified peptide or protein according to claim 20 that comprises extracellular domain amino acids 21 to 775 of SEQ ID NO: 2 or 4.



23. (Previously presented) A purified peptide or protein according to claim 20 that comprises amino acids 1 to 775 of SEQ ID NO: 2 or 4.

24. (Previously presented) A purified peptide or protein comprising an amino acid sequence comprising a fragment of SEQ ID NO: 2 or 4 selected from the group consisting of:

(a) Flt4 receptor extracellular domain amino acids 21-775 of SEQ ID NOS: 2 or 4; and

(b) a fragment of (a) wherein the fragment comprises sufficient amino acid sequence of SEQ ID NO: 2 or 4 to generate an immune response in a nonhuman mammal to produce antibodies that specifically bind to Flt4 (SEQ ID NO: 2 or 4).

25. (Withdrawn) An oligonucleotide or polynucleotide comprising a nucleotide sequence that encodes the peptide or protein of any one of claims 19-24.

26. (Withdrawn) An oligonucleotide or polynucleotide according to claim 25, further comprising an expression control sequence operatively linked to the sequence that encodes the peptide or polypeptide.

27. (Withdrawn) An expression vector comprising an expression control sequence operatively linked to the oligonucleotide or polynucleotide according to claim 25.

28. (Withdrawn) An expression vector according to claim 27, wherein the expression control sequence comprises a promoter that promotes expression in a mammalian cell.



29. (Withdrawn-currently amended) An isolated [[A]] host cell transformed or transfected with a vector according to claim 28.

30. (Withdrawn) An oligonucleotide or polynucleotide comprising a nucleotide sequence complementary to the oligonucleotide or polynucleotide of claim 25.

31. (Previously presented) A purified peptide or protein according to claim 20 that comprises an extracellular domain fragment that comprises at least one immunoglobulin-like domain of the Flt4 extracellular domain.

32. (Previously presented) A purified peptide or protein comprising Flt4 receptor extracellular domain amino acids 21-775 of SEQ ID NO: 4.

33. (Previously presented) A purified peptide or protein comprising an amino acid sequence comprising a fragment of SEQ ID NO: 4 selected from the group consisting of:

(a) Flt4 receptor extracellular domain amino acids 21-775 of SEQ ID NO: 4; and

(b) fragments of SEQ ID NO: 4 defined by cyanogen bromide cleavage sites of Flt4 receptor tyrosine kinase, wherein the fragments comprise Flt4 extracellular domain amino acids.